Distribution & Monitoring Up / Down / Cross, ARC Conversion Synchronization & Delay Video Conversion Audio Conversion Audio Embedding / De-Embedding Advanced Audio Processing

Fiber

Switching Keying & Branding Data Solutions Transport Stream Monitoring & Conversion



FSR-6601 3G HD SD

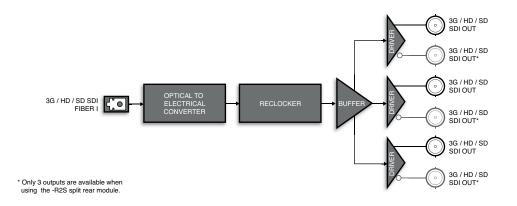






Single Optical to Electrical Converter

Single channel SDI optical to electrical converter supporting data rates from 143Mb/s to 2.97Gb/s.





The FSR-6601 is a fiber optic receiver to serial digital SDI converter that supports serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked providing excellent jitter and return loss specifications.

The FSR-6601 is fully hot-swappable with all active components on the front removable card. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2 FSR-6601 cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 20 independent channel solutions.

Key Features

- Optical to Electrical for all SMPTE 424M, SMPTE 259M-C, and SMPTE 292M standards
- Comes with a patented Ross Lock fiber locking mechanism for guaranteed connection in adverse circumstances
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical input range 1270nm to 1610nm
- Optical input sensitivity -18dBm
- Optical input connection: LC / UPC
- FIBER IN 6 SDI reclocked outputs, 3 reclocked outputs using the -R2S
 - Reclocking on all outputs at 270Mb/s,1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- sdi out 5-year transferable warranty
 - · Power: 4.5 watts

Ordering Information

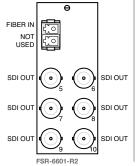
Single Optical to Electrical Converter

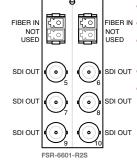
FSR-6601 Single Optical Receiver

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FSR-6601

-R2S Split Rear Module for 2 FSR-6601

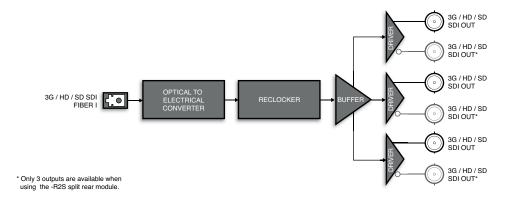




FSR-6601-H 3G HD SD

Single High Sensitivity Optical to Electrical Converter

Single channel High Sensitivity SDI optical to electrical converter supporting data rates from 143Mb/s to 2.97Gb/s





High sensitivity optical receivers provide an additional 10dB to your link budget over the standard optical receivers.

The FSR-6601-H is a single high sensitivity fiber optic receiver to serial digital SDI converter that supports serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked providing excellent jitter and return loss specifications. The FSR-6601-H is fully hot-swappable with all active components on the front removable module. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2x FSR-6601-H cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 20 independent channel solutions.

Key Features

- Optical to Electrical for all SMPTE 424M, SMPTE 259M-C, and SMPTE 292M standards
- Future-proofed 3Gb/s (1080p) design
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical input range 1270nm to 1610nm
- Optical input sensitivity -9dBm to -28dBm
- Optical input connection: LC / UPC
- 6 SDI reclocked outputs, 3 reclocked outputs using the -R2S
- Reclocking on all outputs at 270Mb/s,1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- SDI OUT 5-year transferable warranty
 - Power: 4.5 watts

Ordering Information

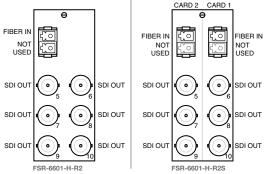
Single High Sensitivity Optical to Electrical Converter

FSR-6601-H Single Optical Receiver

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FSR-6601-H

-R2S Split Rear Module for 2x FSR-6601-H



FST-6602 3G HD SD

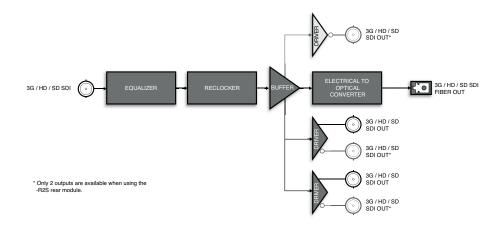






Single Electrical to Optical Converter

Single channel electrical to optical converter supporting data rates from 143Mb/s to 3Gb/s (1080p).





The FST-6602 is a serial digital SDI to fiber optic transmitter converter that supports serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked copies of the input providing excellent jitter and return loss specifications.

The FST-6602 is fully hot-swappable with all active components on the front removable module. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2x FST-6602 cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 20 independent channel solutions.

Key Features

- Electrical to Optical for all SMPTE 424M, SMPTE 259M-C, SMPTE 292M standards
- Future-proofed 3Gb/s (1080p) design
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical output power: -7dBm / 0dBm (CWDM)
- Optical wavelength: 1310nm or CWDM
- Optical output connection: LC / UPC
- 5 reclocked copies of SDI input with the -R2, 2 reclocked copies of SDI input with the -R2S
- Reclocking on all outputs at 270Mb/s, 1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- Alarming for signal presence and optical faults
- 5-year transferable warranty
- Power: 4.5 watts

Ordering Information

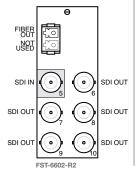
Single Electrical to Optical Converter

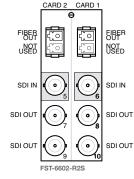
FST-6602 Single Optical Transmitter, 1310nm FST-6602-XX Single Optical Transmitter, CWDM

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FST-6602

-R2S Split Rear Module for 2x FST-6602





FDR-6603 3G HD SD

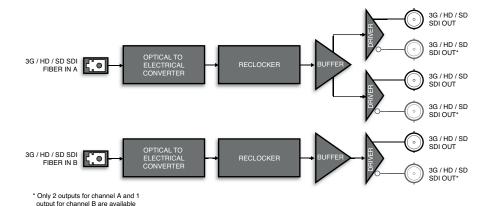






Dual Optical to Electrical Converter

Dual channel SDI optical to electrical converter supporting data rates from 143Mb/s to 2.97Gb/s.



Ordering Information

Dual Optical to Electrical Converter

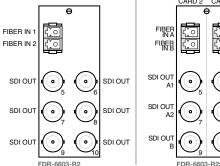
FDR-6603 **Dual Optical Receiver**

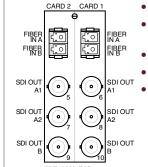
Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FDR-6603

when using the -R2S rear module.

-R2S Split Rear Module for 2 FDR-6603







The FDR-6603 is a dual fiber optic receiver to serial digital SDI converter providing 2 channels of conversion on a single card supporting serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked providing excellent jitter and return loss specifications.

The FDR-6603 is fully hot-swappable with all active components on the front removable card. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

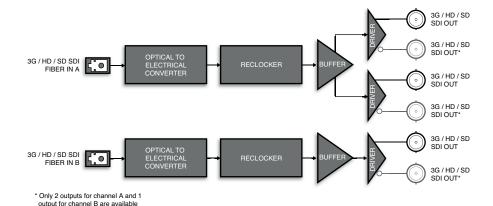
The -R2S high density split rear module can accommodate up to 2 FDR-6603 cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 40 independent channel solutions, providing ultra-high density conversion in a 2RU space.

- Optical to Electrical for all SMPTE 424M, SMPTE 259M-C, SMPTE 292M standards
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical input range 1270nm to 1610nm
- Optical input sensitivity -18dBm
- Optical input connection: LC / UPC
- Reclocked SDI outputs
- Reclocking on all outputs at 270Mb/s, 1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- Alarming for signal presence and input sensitivity
- 5-year transferable warranty
- Power: 5.5 watts

FDR-6603-H 3G HD SD

Dual High Sensitivity Optical to Electrical Converter

Dual channel High Sensitivity SDI optical to electrical converter supporting data rates from 143Mb/s to 2.97Gb/s.



Ordering Information

Dual High Sensitivity Optical to Electrical Converter

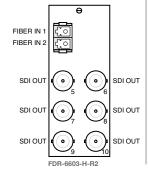
FDR-6603-H Dual Optical Receiver

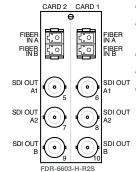
Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FDR-6603-H

when using the -R2S rear module.

-R2S Split Rear Module for 2 FDR-6603-H







High sensitivity optical receivers provide an additional 10dB to your link budget over the standard optical receivers.

The FDR-6603-H is a dual high sensitivity fiber optic receiver to serial digital SDI converter providing 2 channels of conversion on a single card supporting serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked providing excellent jitter and return loss specifications. The FDR-6603-H is fully hot-swappable with all active components on the front removable card. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2 FDR-6603-H cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 40 independent channel solutions, providing ultra-high density conversion in a 2RU space.

- Optical to Electrical for all SMPTE 424M, SMPTE 259M-C, SMPTE 292M standards
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical input range 1270nm to 1610nm
- Optical input sensitivity -9dBm to -28dBm
- Optical input connection: LC / UPC
- Reclocked SDI outputs
- Reclocking on all outputs at 270Mb/s, 1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- Alarming for signal presence and input sensitivity
- 5-year transferable warranty
- Power: 5.5 watts

FDT-6604 3G HD SD

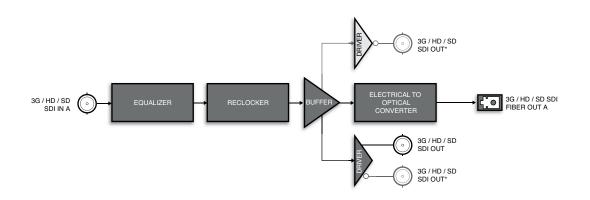


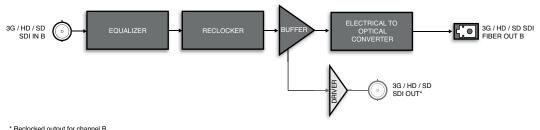




Dual Electrical to Optical Converter

Dual channel electrical to optical converter supporting data rates from 143Mb/s to 3Gb/s (1080p).





is not available when using the -B2S rear module

Ordering Information

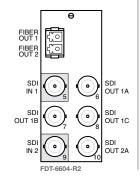
Dual Electrical to Optical Converter

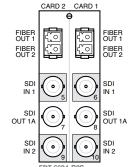
FDT-6604 Dual Optical Transmitter, 1310nm FDT-6604-XX Dual Optical Transmitter, CWDM

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FDT-6604

-R2S Split Rear Module for 2 FDT-6604







The FDT-6604 is a serial digital SDI to fiber optic transmitter converter that supports serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked copies of the input providing excellent jitter and return loss specifications.

The FDT-6604 is fully hot-swappable with all active components on the front removable card. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2 FDT-6604 cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 40 independent channel solutions, providing ultra-high density conversion in a 2RU space.

- Electrical to Optical for all SMPTE 424M, SMPTE 259M-C, SMPTE 292M standards
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical output power: -7dBm / 0dBm (CWDM)
- Optical wavelength: 1310nm or CWDM
- Optical output connection: LC / UPC
- Reclocked SDI outputs
- Reclocking on all outputs at 270Mb/s, 1.483Gb/s, 1.485Gb/s, 2.967Gb/s, 2.970Gb/s
- Alarming for signal presence and optical faults
- 5-year transferable warranty
- Power: 4.5 watts

FSR-6605 3G HD SD

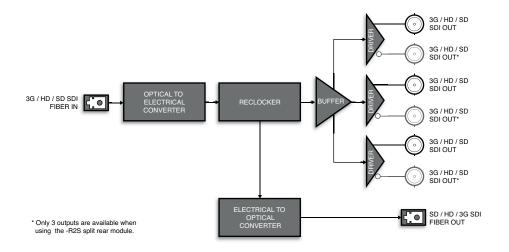






Single Optical to Electrical Converter with Optical Regeneration

Single channel SDI optical to electrical converter supporting data rates from 143Mb/s to 2.97Gb/s.



Ordering Information

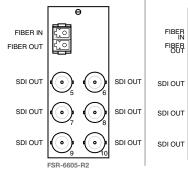
Single Optical to Electrical Converter with Optical Regeneration

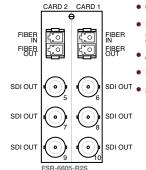
FSR-6605 Optical Regenerator and DA

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FSR-6605

-R2S Split Rear Module for 2 FSR-6605







The FSR-6605 is a fiber optic receiver to serial digital SDI converter supporting serial digital data rates from 143Mb/s up to 2.97Gb/s (1080p). SDI outputs are reclocked providing excellent jitter and return loss specifications.

The FSR-6605 provides a regenerated and reclocked optical output, re-launching the optical signal at -7dBm.

The FSR-6605 is fully hot-swappable with all active components on the front removable card. No active components are installed on the rear I/O connection module. This design greatly reduces down-time eliminating any need to access the back of the rack frame.

The -R2S high density split rear module can accommodate up to 2 FSR-6605 cards, maximizing the number of conversion channels in a frame. In this configuration, the OG3-FR supports up to 20 independent channel solutions.

- Optical to Electrical for all SMPTE 424M, SMPTE 259M-C, SMPTE 292M standards
- Supports single-mode fiber
- Hot-swappable from front of frame with no external connect / reconnect required
- Optical output power -7dBm
- Optical input sensitivity -18dBm
- Optical connections: LC / UPC
- Optical wavelength 1310nm
- Reclocking on all outputs at 270Mb/s, 1.483Gb/s, 1.485Gb/s, 2.970Gb/s
- Alarming for signal presence and optical faults
- Reclocked SDI outputs
- SDI OUT 5-vear transferable warranty

MUX-6258-A 3G HD SD AES

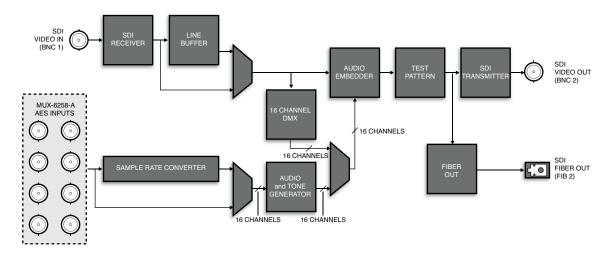






AES / EBU Audio Embedder with Fiber Optic Output

The ideal solution for embedding 8 AES streams into an 3G / HD / SD SDI signal with optical output.





The MUX-6258-A is a high quality program audio embedder capable of embedding up to 8 AES / EBU pairs (16 audio channels) into an 3G / HD / SD SDI signal.

The fiber output is ideal for signal paths exceeding 100m. A single card solution meeting the needs for all audio embedding applications.

Audio proc control on each input allow for audio processing with independent channel sample rate conversions, gain of ±20dB, audio delay up to 1 second and channel phase invert and summing capability. The MUX-6258-A is extremely flexible in handling channel assignments and channel remapping as well as fully configurable append and overwrite capability for existing channels. Various configuration options are available for backup scenarios should a loss of input occur.

The MUX-6258-A offers a fiber output and one coax output.

Key Features

- 16 channel audio embedding for all popular HD / SD SDI formats with fiber output
- Audio proc amp controls; gain, invert, delay and sum, sample rate conversion
- Full control over channel assignments, primary and backup
- Configurable overwrite and append capability for existing embedded audio
- Programmable silence detection and timeout thresholds
- Optical output power: -7dBm / 0dBm (CWDM)
- Optical wavelength: 1310nm or CWDM
- Optical output connection: LC
- 5-year transferable warranty
- Power: 9.5 watts

Ordering Information

AES / EBU Audio Embedder with Fiber Optic Output

MUX-6258-A AES / EBU Audio Embedder

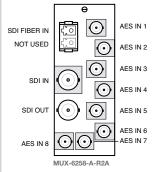
w/ Optical Output

MUX-6258-A-XX AES / EBU Audio Embedder

w/ CWDM Optical Output

Rear Module Suffix (ex: [model]-R2)

Rear Module for MUX-6258-A -R2A



DMX-6259-A 3G HD SD AES

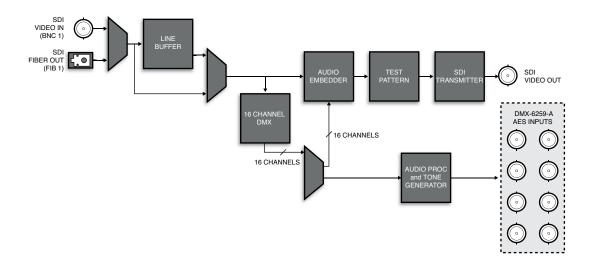






AES / EBU Audio De-Embedder with Fiber Optic Input

The ideal solution for de-embedding 8 AES streams from an 3G / HD / SD SDI signal with optical input.



Ordering Information

AES / EBU Audio De-Embedder with Fiber Optic Input

DMX-6259-A AES / EBU Audio De-Embedder

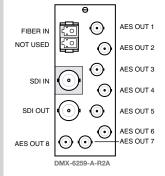
w/ Optical Input

DMX-6259-A-H AES / EBU Audio De-Embedder w/

High Sensitivity Optical Receiver

Rear Module Suffix (ex: [model]-R2)

-R2A Rear Module for DMX-6259-A





The DMX-6259-A is a high quality program audio de-embedder capable of de-embedding up to 8 AES / EBU pairs (16 audio channels) from an 3G / HD / SD SDI signal.

The fiber input is ideal for signal paths exceeding 100m. A single card solution meeting the needs for all audio de-embedding applications. Standard and high sensitivity optical receivers are available to accommodate various link budgets and transmission distances.

Audio proc control on each channel allow for audio processing with gain of ±20db, audio delay up to 1 second and channel invert. The DMX-6259-A supports full channel assignment to the discrete outputs. Various configuration options, including internally generated patterns and tones, are available for audio and video output scenarios should a loss of input occur.

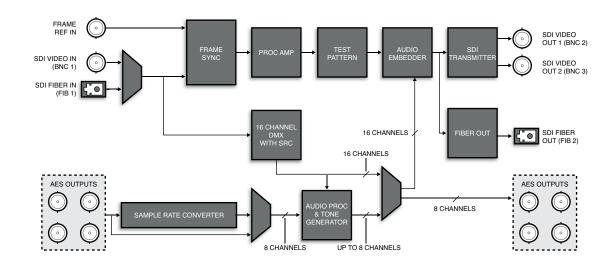
The DMX-6259-A offers a selectable fiber / coax input.

- 16 channel audio de-embedding for all popular HD / SD SDI formats with fiber input
- Audio proc amp controls; gain, invert, and delay
- Assign any embedded channel to any discrete audio output
- Ability to re-map channels in embedded video stream
- Programmable silence detection and timeout thresholds
- Optical input range 1270nm to 1610nm
- Optical input sensitivity -19dBm
- Optical input sensitivity -9dBm to -28dBm, w/ high sensitivity receiver (-H)
- Optical input connection: LC
- 5-year transferable warranty
- Power: 9.5 watts

SFS-6622-A

3G / HD / SD SDI Frame Synchronizer with Fiber Optic Input & Output

A/V frame synchronizer with AES embedding / de-embedding and fiber optic input and output



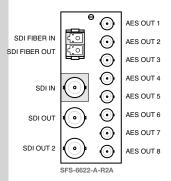
Ordering Information

3G / HD / SD-SDI Frame Synchronizer

SFS-6622-A 3G / HD / SD-SDI Frame Synchronizer

Rear Module Suffix (ex: [model]-R2)

-R2A Rear Module for SFS-6622-A





The SFS-6622-A 3G A/V frame synchronizer is the ideal solution for timing and processing both audio and video in 3G, high definition, and standard definition SDI applications. Fiber optic inputs and outputs makes this card ideal for mixed format electrical / optical installations.

The input on the SFS-6622-A is software selectable between BNC and fiber optic LC connectors, and can accept all popular formats, including 480i, 576i, 720p, 1080i, and 1080p. Input video is automatically detected to simplify operation and configuration. The output format automatically follows the input format and are available both as Standard BNC and Fiber Optic LC Connectors.

Input video format is automatically detected to simplify operation combined with an onboard test pattern generator, with user selectable patterns in the event of input signal loss. The input signal is locked and re-timed to the reference input, with an additional adjustable delay of up to 28 frames. When the fiber optic input is used, optical power levels and alarms are presented in DashBoard.

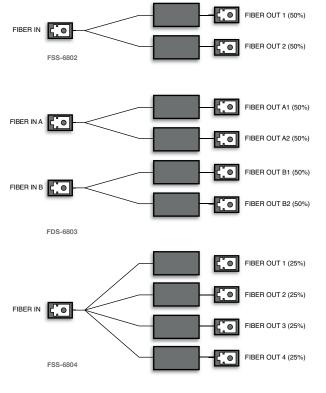
Audio processing for up to 16 channels, with embedding / deembedding, is available using the 8 AES3 HD-BNC connectors. Audio processing includes, independent sample rate conversion, delay, swap, sum and mute with pass-through support for Dolby E or Dolby Digital. Audio I/O can be configured, via DashBoard, as either 8 AES inputs, 8 AES outputs, or bi-directional with 4 inputs and 4 outputs.

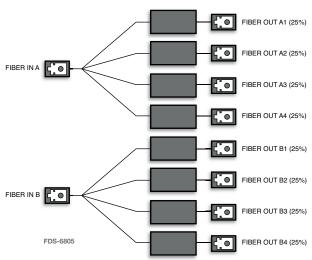
- BNC electrical or single mode fiber optic LC input
- Simultaneous dual BNC electrical and single mode fiber optic LC outputs
- Optical output power of -7dBm @1310nm
- Optical receiver sensitivity of -18 dBm
- Supports all popular formats: 480i, 576i, 720p, 1080i, 1080pSF, 1080p
- 8 AES3 HD-BNC connections for audio embedding / de-embedding, with sample rate conversion
- Onboard test generator for loss of input conditions
- Auto input format detection
- Onboard video proc amp
- A/V delay of up to 28 frames
- Passes ancillary VANC Data
- Onboard audio proc amp, including individually assignable audio delay, swap, sum, mute
- Full software configuration and signal status, via DashBoard control system.
- 5-year transferrable warranty

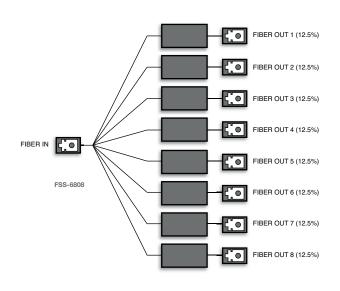
Optical Splitters 3G HD SD

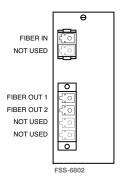
Single 1x2, 1x4, 1x8 & Dual 1x2, 1x4 Passive Optical Splitters

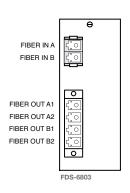
Distribution of an optical signal to multiple sources without the need for electrical conversion.

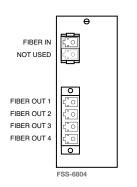


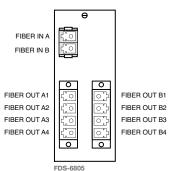


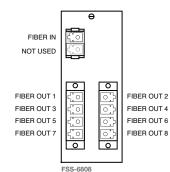














Optical splitters take an optical signal and split it into two or more outputs and functions like a distribution amplifier. The optical power at the input is split to the outputs at an even ratio:

- a 1x2 splitter will output 50% of the input's power on each output
- a 1x4 splitter will output 25% of the input's power on each output
- a 1x8 splitter will output 12.5% of the input's power on each output

Optical splitter modules use passive optical circuits. The modules fit the OG3-FR frame but draw no power. With no active components, modules offer a very high level of reliability.

Ordering Information

Ontical Splitters

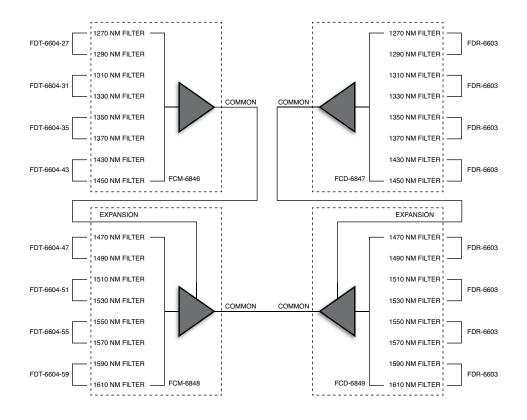
Optical Splitters	
FSS-6802	Optical 1x2 Splitter
FDS-6803	Dual Optical 1x2 Splitter
FSS-6804	Optical 1x4 Splitter
FDS-6805	Dual Optical 1x4 Splitter
FSS-6808	Optical 1x8 Splitter

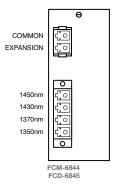
- Maximum input loss of 4dB on 50% split, 8dBm on 25% split, and 11dBm on 12.5% split
- Optical input range: 1270nm to 1620nm
- Passive modules contain no active components and offer very high reliability
- Latching rear module to prevent accidental removal
- Optical input / output connection: LC / UPC
- Fits OG3-FR frame, no power required
- 5-year transferable warranty

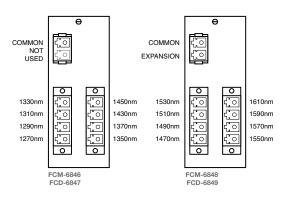


Coarse Wave Division Multiplexing

Up to 16 channels of bit rate independent signals transmitted on a single fiber using wavelength division multiplexing.









CWDM Optical MUX / DEMUX

Three sets of MUX / DEMUX modules are available; a 4 channel with expansion port, an 8 channel, and an 8 channel with expansion port. Using individual, or a combination of modules, allow for the creation of 4, 8, 12, or 16 channel systems. Modules with expansion ports enable the use of existing non-CWDM 1310nm lasers to create 5, 9 and 13 channel systems.

Wavelength MUX / DEMUX modules use passive wavelength filters. The modules fit the OG3-FR frame but draw no power. With no active components, modules offer a very high level of reliability.

CWDM Transmitters and Receivers

Wave division multiplexing allows the use of multiple wavelengths of light on a single fiber, therefore allowing a single fiber to carry multiple signals. Each signal can run at its own bit rate and protocol, independent for the other signals.

Each electrical signal to be multiplexed into the final output must be converted to an optical signal with a unique wavelength by using different lasers on the transmitter. All Ross openGear® fiber transmitters have the option for CWDM output. The FDT-6604 dual electrical to optical transmitter comes in 8 product variants, utilizing DFB optical SFPs, with each card transmitting two neighboring wavelengths. The FST-6602 single transmitter, MUX-6258 audio mux and Ethernet products come in 16 different product variants. CWDM products are identified by a two digit suffix, which identifies the lower wavelength.

For example, dual channel products like the FDT-6604-27 will transmit 1270nm on its first channel, and 1290nm on its second channel. Single channel products like the MUX-6258-55 will output 1550nm.

Optical to electrical converters use a wide spectrum optical receiver, and will work with any wavelength. All optical to electrical converters are wide spectrum receivers and will function within a CWDM system, regardless of the transmitted wavelengths.

Ordering Information

Multiplexing / De-Multiplexing

FCM-6844 4 CH Optical MUX w/ Expansion Port FCD-6845 4 CH Optical DEMUX w/ Expansion Port

FCM-6846 8 CH Optical MUX FCD-6847 8 CH Optical DEMUX

FCM-6848 8 CH Optical MUX w/ Expansion Port FCD-6849 8 CH Optical DEMUX w/ Expansion Port

Key Features

MUX / DEMUX Features

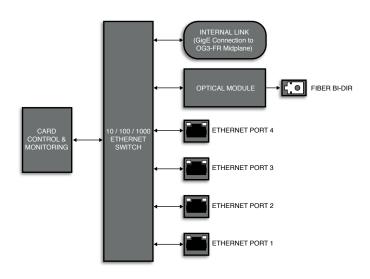
- Passive CWDM optical MUX and DEMUX modules contain. no active components and offer very high reliability
- Optical output connection: LC / UPC
- Supports single-mode fiber
- Expandable from 4 or 8 to 12 or 16 channel systems
- Latching rear module to prevent accidental removal
- Fits OG3-FR frame, passive modules do not require any
- 5-year transferable warranty
- Power: 4.5 watts

FES-6941 GigE



Single Link Ethernet Fiber Transceiver (WDM)

6 Port, Gigabit Ethernet switch with single link, bi-directional fiber transceiver.



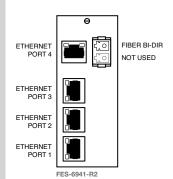
Ordering Information

Single Link Ethernet Transceiver, Single Fiber

FES-6941-20A 20km WDM 1310 TX / 1550 RX FES-6941-20B 20km WDM 1550 TX / 1310 RX 40km WDM 1310 TX / 1550 RX FES-6941-40A FES-6941-40B 40km WDM 1550 TX / 1310 RX

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FES-6941





The FES-6941 is a dedicated 6 port, Gigabit Ethernet switch. 4 Copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 1 optical port provides an Ethernet link over a single, bi-directional fiber connection for extended distances. An additional port is available for the OG3 frame's optional internal GigE controller.

The FES-6941 is available in 2 varieties: The FES-6941-20A/B transceiver pair is capable of running up to a 20km link between 2 transceivers. The FES-6941-40A/B transceiver pair is capable of running up to 40km link, by using a higher output power and higher receiver sensitivity SFP.

Using WDM (Wave Division Multiplexing), a bi-directional link can be obtained using 1310nm and 1550nm wavelengths over a single fiber link. When using WDM single fiber link, the two FES-6941 transceivers at each end of the link must complement each other in regards to their wavelength TX and RX.

Key Features

- 4 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- Bi-directional single fiber WDM connection
- Optical connection: LC
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km A: -22dBm @ 1550nm • 20km B: -23dBm @ 1310nm • 40km A: -23dBm @ 1550nm • 40km B: -23dBm @ 1310nm

Output Power & Wavelength

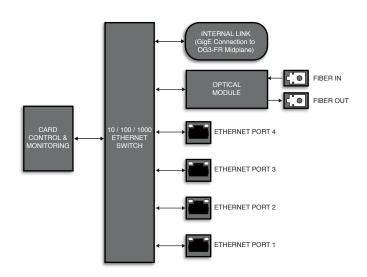
• 20km A: -8dBm @ 1310nm • 20km B: -8dBm @ 1550nm -3dBm @ 1310nm • 40km A: -5dBm @ 1550nm • 40km B:

FES-6942 GigE



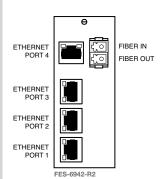
Single Link Ethernet Fiber Transceiver (Dual Fiber)

6 Port, Gigabit Ethernet switch with single link, dual fiber transceiver.



Ordering Information

Single Link, Dual Fiber FES-6942-20 20km FES-6942-40 40km FES-6942-80 80km FES-6942-XX* CWDM FES-6942-XXH* CWDM + High Sensitivity Rear Module Suffix (ex: [model]-R2) -R2 Rear Module for FES-6942 * CWDM wavelength identifier; ex: XX = 31 for 1310nm. See page 86 of the Infrastructure Catalog for CWDM multiplexing.





The FES-6942 is a dedicated 6 port, Gigabit Ethernet switch. 4 copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 1 dual fiber optical port provides an Ethernet link over a dual fiber connection for extended distances.

The FES-6942 is available in several varieties: The FES-6942-20 transceiver is capable of running up to a 20km link between a 2nd FES-6942-20, or any other transceivers of similar specifications. 40km and 80km variations are also available and achieved by using higher output power transmitters and higher sensitivity receiver SFPs.

CWDM options are available in standard and high sensitivity SFPs for use with external CWDM multiplexer and de-multiplexer systems. Up to 16 independent optical signals can be multiplexed down a single fiber. This allows up to 8 full duplex, gigabit Ethernet links over a single fiber, or any combination of audio, video and data optical signals using other Ross Video CWDM fiber products.

Key Features

- 4 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- Dual LC Optical Connection
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km: -22dBm • 40km: -24dBm • 80km: -24dBm CWDM: -24dBm • CWDM-H: -32dBm

Output Power & Wavelength

• 20km: -8dBm @ 1310nm • 40km: -2dBm @ 1310nm • 80km: 0dBm @ 1550nm

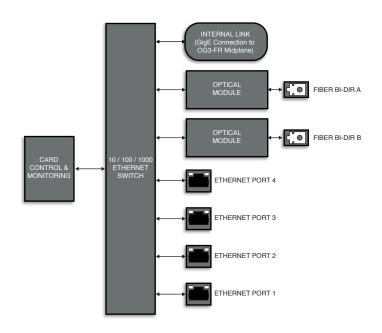
CWDM: 0dBm @ 1270nm - 1610nm CWDM-H 2dBm @ 1270nm - 1610nm

FED-6943 GigE



Dual Link Ethernet Fiber Transceiver (WDM)

7 Port, Gigabit Ethernet switch with dual link, bi-directional fiber transceiver.



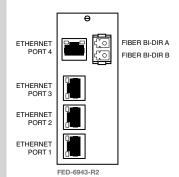
Ordering Information

Dual Link Ethernet Transceiver, Dual Fiber

FED-6943-20A 20km WDM 1310 TX / 1550 RX FED-6943-20B 20km WDM 1550 TX / 1310 RX FED-6943-40A 40km WDM 1310 TX / 1550 RX FED-6943-40B 40km WDM 1550 TX / 1310 RX

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FED-6943





The FED-6943 is a dedicated 7 port, Gigabit Ethernet switch. 4 Copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 2 optical ports provide Ethernet links over two, bi-directional fiber connections for extended distances. An additional port is available for the OG3 frame's optional internal GigE controller.

The FED-6943 is available in 2 varieties: The FED-6943-20A/B transceiver pair is capable of running up to a 20km link between 2 transceivers. The FED-6943-40A/B transceiver pair is capable of running up to 40km link, by using a higher output power and higher receiver sensitivity SFP.

Using WDM (Wave Division Multiplexing), a bi-directional link can be obtained using 1310nm and 1550nm wavelengths over a single fiber link. When using WDM single fiber link, the two FED-6943 transceivers at each end of the link must complement each other in regards to their wavelength TX and RX.

Key Features

- 4 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- 2 bi-directional single fiber WDM connection
- Optical connection: LC
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km A: -22dBm @ 1550nm • 20km B: -23dBm @ 1310nm • 40km A: -23dBm @ 1550nm • 40km B: -23dBm @ 1310nm

Output Power & Wavelength

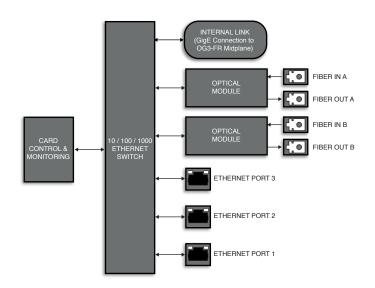
• 20km A: -8dBm @ 1310nm • 20km B: -8dBm @ 1550nm • 40km A: -3dBm @ 1310nm -5dBm @ 1550nm • 40km B:

FED-6944 GigE



Dual Link Ethernet Fiber Transceiver (Quad Fiber)

6 Port, Gigabit Ethernet switch with dual link, guad fiber transceivers.



Ordering Information

Dual Link Ethernet Transceiver, Quad Fiber

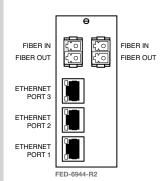
FED-6944-20 20km FED-6944-40 40km FED-6944-80 80km FED-6944-XX* CWDM

FED-6944-XXH * CWDM + High Sensitivity

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FED-6944

* CWDM wavelength identifier; ex: XX = 31 for 1310nm. See page 86 of the Infrastructure Catalog for CWDM multiplexing.





The FED-6944 is a dedicated 6 port, Gigabit Ethernet switch. 3 copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 4 optical ports provide an Ethernet link over two, dual fiber connections for extended distances. An additional port is available for the OG3 frame's optional internal GigE controller.

The FED-6944 is available in several varieties: The FED-6944-20 transceiver is capable of running up to a 20km link between a 2nd FED-6944-20, or any other transceivers of similar specifications, 40km and 80km variations are also available and achieved by using higher output power transmitters and higher sensitivity receiver SFPs.

CWDM options are available in standard and high sensitivity SFPs for use with external CWDM multiplexer and de-multiplexer systems. Up to 16 independent optical signals can be multiplexed down a single fiber. This allows up to 8 full duplex, gigabit Ethernet links over a single fiber, or any combination of audio, video and data optical signals using other Ross Video CWDM fiber products.

Key Features

- 3 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- Quad LC Optical Connection
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km: -22dBm • 40km: -24dBm • 80km: -24dBm CWDM: -24dBm • CWDM-H: -32dBm

Output Power & Wavelength

• 20km: -8dBm @ 1310nm • 40km: -2dBm @ 1310nm • 80km: 0dBm @ 1550nm

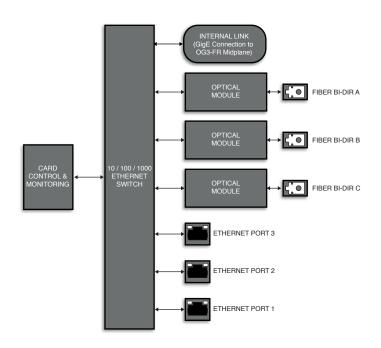
CWDM: 0dBm @ 1270nm - 1610nm CWDM-H 2dBm @ 1270nm - 1610nm

FET-6945 GigE



Triple Link Ethernet Fiber Transceiver (WDM)

7 Port, Gigabit Ethernet switch with triple link, bi-directional fiber transceivers.



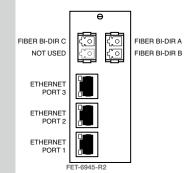
Ordering Information

Triple Link Ethernet Transceiver, Triple Fiber

FET-6945-20A 20km WDM 1310 TX / 1550 RX FET-6945-20B 20km WDM 1550 TX / 1310 RX FET-6945-40A 40km WDM 1310 TX / 1550 RX FET-6945-40B 40km WDM 1550 TX / 1310 RX

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FET-6945





The FET-6945 is a dedicated 7 port, Gigabit Ethernet switch. 3 Copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 3 optical ports provide Ethernet links over three, bi-directional fiber connections for extended distances. An additional port is available for the OG3 frame's optional internal GigE controller.

The FET-6945 is available in 2 varieties: The FET-6945-20A/B transceiver pair is capable of running up to a 20km link between 2 transceivers. The FET-6945-40A/B transceiver pair is capable of running up to 40km link, by using a higher output power and higher receiver sensitivity SFP.

Using WDM (Wave Division Multiplexing), a bi-directional link can be obtained using 1310nm and 1550nm wavelengths over a single fiber link. When using WDM single fiber link, the two FET-6945 transceivers at each end of the link must complement each other in regards to their wavelength TX and RX.

Key Features

- 3 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- 3 bi-directional single fiber WDM connections
- Optical connection: LC
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km A: -22dBm @ 1550nm • 20km B: -23dBm @ 1310nm

• 40km A: -23dBm @ 1550nm

• 40km B: -23dBm @ 1310nm

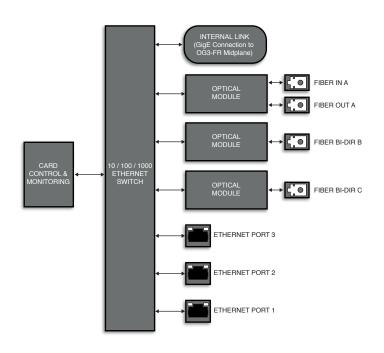
Output Power & Wavelength

• 20km A: -8dBm @ 1310nm • 20km B: -8dBm @ 1550nm • 40km A: -3dBm @ 1310nm -5dBm @ 1550nm • 40km B:

FET-6946 GigE

Triple Link Ethernet Fiber Transceiver (WDM & Dual Fiber)

7 Port, Gigabit Ethernet switch with triple link, dual bi-directional plus dual fiber transceivers.



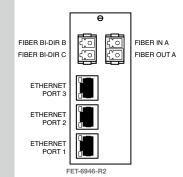
Ordering Information

Triple Link Ethernet Transceiver, Dual Bi-Directional plus **Dual Fiber**

FET-6946-20A 20km WDM 1310 TX / 1550 RX FET-6946-20B 20km WDM 1550 TX / 1310 RX FET-6946-40A 40km WDM 1310 TX / 1550 RX FFT-6946-40B 40km WDM 1550 TX / 1310 RX

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for FET-6946





The FET-6946 is a dedicated 7 port, Gigabit Ethernet switch. 3 copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. 2 optical ports provide 2 Ethernet links over two, bi-directional fiber connections and 2 additional optical ports provide a 3rd Ethernet link over dual fiber connections. An additional port is available for the OG3 frame's optional internal GigE controller.

The FET-6946 is available in 2 varieties: The FET-6946-20A/B transceiver pair is capable of running up to a 20km link between 2 transceivers. The FET-6946-40A/B transceiver pair is capable of running up to 40km link, by using a higher output power and higher receiver sensitivity SFP.

Using WDM (Wave Division Multiplexing), a bi-directional link can be obtained using 1310nm and 1550nm wavelengths over a single fiber link. When using WDM single fiber link, the two FET-6946 transceivers at each end of the link must complement each other in regards to their wavelength TX and RX.

Kev Features

- 3 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- Quad fiber connection
- Optical connection: LC
- Internal GigE midplane connection
- SNMP compliant
- 5-year transferable warranty

Input Optical Sensitivity & Wavelength

• 20km A: -22dBm @ 1550nm • 20km B: -23dBm @ 1310nm • 40km A: -23dBm @ 1550nm • 40km B: -23dBm @ 1310nm

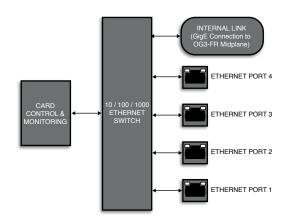
Output Power & Wavelength

• 20km A: -8dBm @ 1310nm -8dBm @ 1550nm • 20km B: • 40km A: -3dBm @ 1310nm -5dBm @ 1550nm • 40km B:

CES-8940

Gigabit Ethernet Switch

4 Port Ethernet Switch



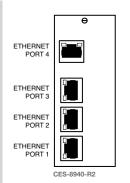
Ordering Information

Gigabit Ethernet Switch

CES-8940 Gigabit Ethernet Switch

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for CES-8940





The CES-8940 is a dedicated 5 port, Gigabit Ethernet switch. 4 copper ports provide 1Gb/s connectivity for multiple Ethernet enabled devices or links to additional network switches. An additional port connects into the OG3-FR's midplane for the optional GigE frame controller card.

The CES-8940 is ideal for linking multiple openGear® frames, or other Ethernet enabled devices within a single rack. With its modular, high density design, it can help reduce or simplify IT cabling during a new install, or provide a quick and easy way to add new Ethernet devices within a rack containing an openGear® frame without the need for larger external switches.

- 4 independent copper Gigabit Ethernet ports
- Copper Ethernet connection: RJ45
- Internal GigE midplane connection
- VLAN configuration via DashBoard
- Trunking configuration via DashBoard
- SNMP compliant
- 5-year transferable warranty

DSS-8224

Dual 2x1 or 4x2 HD / SD SDI Switch

AVS-8764

AES / Analog Video Dual 2x1 or 4x2 Switch

RCM-8120

Remote Control Modules

Distribution & Monitoring
Up / Down / Cross, ARC Conversion
Synchronization & Delay
Video Conversion
Audio Conversion
Audio Embedding / De-Embedding
Advanced Audio Processing
Fiber

Switching

Keying & Branding

Data Solutions

Transport Stream Monitoring & Conversion



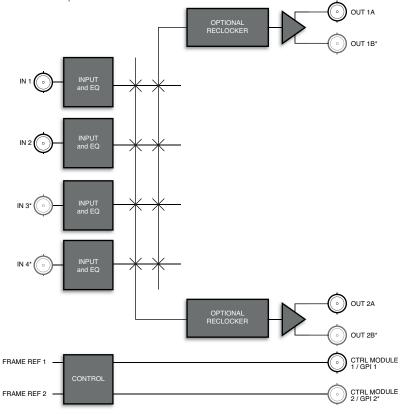
DSS-8224 HD SD





Dual 2x1 or 4x2 HD / SD SDI Switch

A convenient and economical solution for systems requiring switching of up to 4 input video sources, SDI and / or HD SDI, to 1 or 2 outputs.



* Outputs not available in 2x2 mode with -R2S rear module

Ordering Information

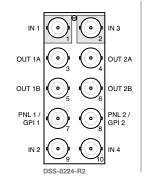
Dual 2x1 or 4x2 HD / SD SDI Switch

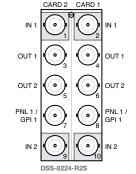
DSS-8224 HD / SD SDI Switch

Rear Module Suffix (ex: [model]-R2)

Rear Module for DSS-8224 -R2

-R2S Split Rear Module for 2x DSS-8224







The DSS-8224 can be configured as a pair of independent 2x1 switches or as a pair of 4x1 switches with common inputs. The DSS-8224 accepts common serial digital signals at 143, 270, 360, 540Mb/s and 1.485Gb/s. All switches are performed in the vertical interval, timed to an external reference. Each switch can be controlled locally at the card-edge by an optional RCM-8120 control module or by GPI. DashBoard and optional SNMP monitoring is provided for input presence, reference present and output status.

The DSS-8224 can be combined, on a common control system, with the AVS-8764 to perform multi-level, analog video, AES audio, and HD / SD SDI switching.

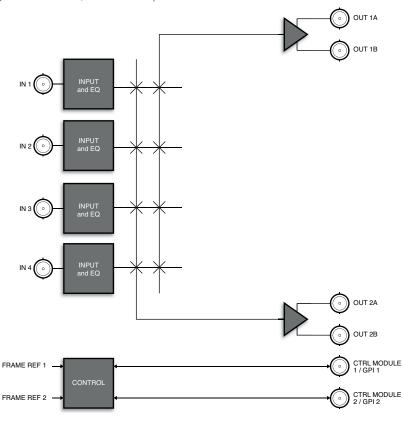
The DSS-8224 can be configured in auto-changeover mode. In this mode, the secondary input is selected when the primary is lost or lock cannot be achieved.

- Dual 2x1 or 4x2 modes
- 2 switches on a single module
- Switches HD SDI and SD serial digital video (143Mb/s to 1.485Gb/s)
- 4 HD / SD SDI inputs, 2 reclocked outputs
- Configurable to 4x2, 4x1, 2x1, or dual 2x1 switch
- 20 2x1 / 10 4x2 switches in 2RU
- Input selection saved to non-volatile RAM
- Vertical interval switching compliant with SMPTE RP168-2002
- Indicators for input signal presence and reference
- Flexible control, remote RCM-8120 module, GPI, card-edge
- 5-year transferable warranty
- Power: 4.5 watts



AES / Analog Video Dual 2x1 or 4x2 Switch

Provides a convenient and economical solution for systems that require switching of up to 4 input AES audio signals or analog video sources, to 1 or 2 outputs.



Ordering Information

AES / Analog Video Dual 2x1 or 4x2 Switch

AVS-8764 AES / Analog Video Switch

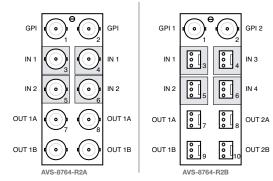
Rear Module Suffix (ex: [model]-R2)

Unbalanced AES / Analog Video Rear -R2A

Module or AVS-8764

-R2B Balanced AES Rear Module for

AVS-8764





The AVS-8764 can be configured as a pair of independent 2x1 switches or as a pair of 4x1 switches with common inputs. The AVS-8764 accepts analog video or AES / EBU audio with the option of unbalanced 75Ω or balanced 110Ω . All switches are performed in the vertical interval, timed to an external reference. Each switch can be controlled locally at the card-edge by an optional RCM-8120 control module or by GPI. DashBoard and optional SNMP monitoring is provided for input presence, reference present and output status.

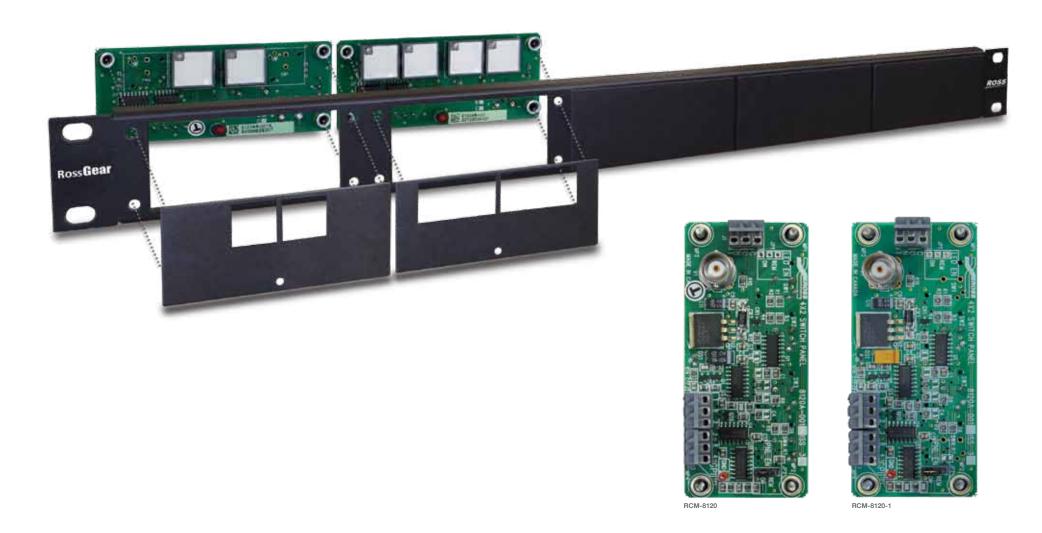
The AVS-8764 can be combined, on a common control system, with the DSS-8224 to perform multi-level, analog video, AES audio, and HD / SD SDI switching.

- Dual 2x1 or 4x2 modes
- 2 switches on one module
- Analog video or AES audio
- 20 2x1 / 10 4x2 switches in 2RU
- Configurable to 4x2, 4x1, 2x1, or dual 2x1 switch
- 2 selectable frame wide references
- Vertical interval switching timed to external analog video
- Remote control modules can control 10 switches
- Clamping mode for video on all inputs
- · Selection indicators on front of card
- Flexible control, remote RCM-8120 module, GPI, card-edge
- 5-year transferable warranty
- Power: 2.2 watts

RCM-8120

Remote Control Modules

Remote control modules offer standard GPI/O interfaces to control most GPI/O enabled devices, as well as a logic control signal for use with the DSS-8224 Digital Video Switch and the AVS-8764 AES / Analog Video Switch.



The RCM family of remote control modules provide easy control over the openGear® family of switches in a space saving design.

2 or 4 button models are available for control of the DSS-8224 and the AVS-8624 switches using a discrete logic control connect to the cards using standard BNC video cable. GPI/O is also available for interfacing with many other standard GPI/O controlled devices.

A 2 position hard switch is available for selecting between multiple RCM modules connected to the same control bus, and all modules fit into a convienient 1RU, 19" rack panel.

RCM-8120:

Remote Control Module (4 Buttons): controls DSS-8224 and AVS-8764, configurable for 4x1 or Dual 2x1 operation

RCM-8120-1:

Remote Control Module (2 Buttons): controls DSS-8224 and AVS-8764

RCS-8120:

Dual Remote Control Selector: two interlocked contact closure switches used for simple GPI control or as a delegation switch between 2x RCM-8120 or RCM-8120-1

MRP-8120:

Mounting Rack Panel (Holds RCM-8120 & RCM-8120-1): 1RU control panel, holds up to 5 RCM-8120 or RCM-8120-1 Control Modules

BPM-8120:

Blank Panel (Cover Plate): blank cover plate for MRP-8120, covers control positions

DCA-8120:

In-Desk Mounting Adapter: a rectangular plate for mounting RCM-8120, RCM-8120-1 or RCS-8120 in a desk

Ordering Information

RCM-8120	4-Button Remote Control Module
RCM-8120-1	2-Button Remote Control Module
RCS-8120	Dual Remote Control Selector
MRP-8120	1RU Mounting Rack Panel
BPM-8120	Blank Panel for MRP-8120
DCA-8120	In-Desk Mounting Adapter

- 2 or 4 button control modules
- Discrete logic and GPI/O interfaces
- Multiple modules per control bus
- 2-way selector module
- 19" 1RU mounting rack panel
- Up to 5 modules in a 1RU rack panel
- Blank plates available for rack panel
- 5-year transferable warranty

MDK-111A-M

HD / SD SDI Mixer / Keyer with Internal Logo Insertion

MDK-111A-K

HD / SD Quad Logo Inserter

Distribution & Monitoring

Up / Down / Cross, ARC Conversion

Synchronization & Delay

Video Conversion

Audio Conversion

Audio Embedding / De-Embedding

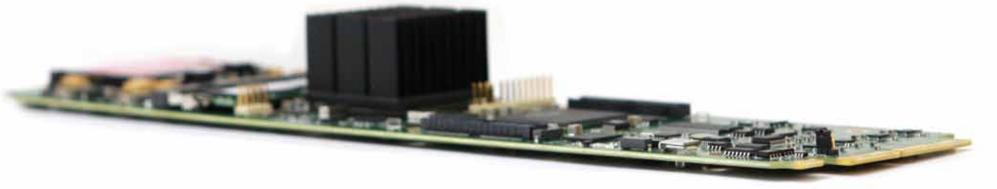
Advanced Audio Processing

Switching

Keying& Branding

Data Solutions

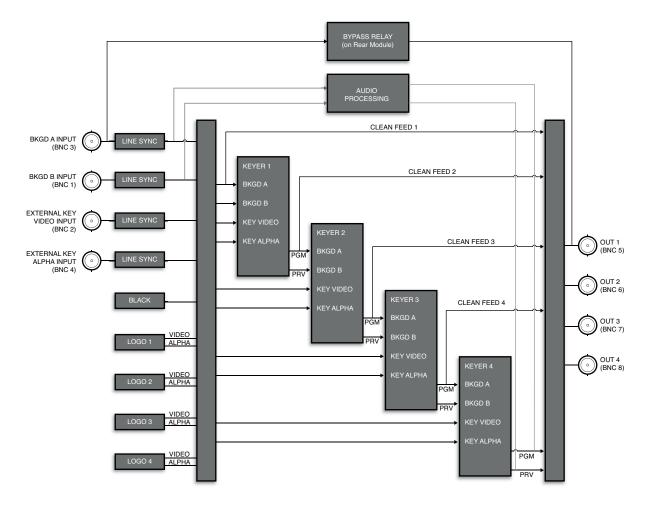
Transport Stream Monitoring & Conversion

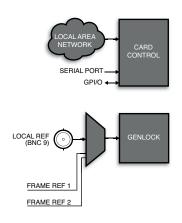


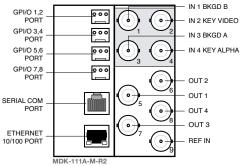
MDK-111A-M HD SD

HD / SD SDI Mixer / Keyer with Internal Logo Insertion

4 keyers with simultaneous background mixing, external keying, 3 internal animated logo keys, fade-to-black – with preview.









Applications

- Animated Channel Branding Inserter
- Rating Inserter
- Mini-Master Control Switcher
- Downstream Keyer / Branding Engine
- Master Control Bypass Mixer
- Branding / Sponsorship Keyer for Stadiums

The MDK-111A-M is the most advanced HD / SD SDI single card mixer / keyer on the market. The multikeving function allows simultaneous compositing of both an external key source with up to 3 internally generated logo key sources plus background mixing. For example, the MDK-111A-M can key an external character generator like Ross Video's XPression, over the background video and then key up to 3 internally generated animated logos. Transition control to any layer; BKGD, external key, and / or internal keys is independently controllable. The internal key sources can be any size up to full-screen and can be positioned anywhere. This makes the insertion of trouble slides, content rating bugs, station logos and EAS simple and affordable.

The MDK offers 4 configurable outputs with selections for PGM / PREVIEW and CLEAN. The look-ahead PREVIEW is ideal for live productions providing confidence in quality and accuracy of the next scene to go to air.

The MDK-111A-M offers a wide range of control with a total of 8 configurable GPI/O, M2100 serial interface and full DashBoard Control and Monitoring. The flexible control makes automating logo insertion simple anywhere in the program stream.

Built-in bypass relay from BKGD A to PGM protects your air feed when the device is taken off-line to ensure critical program stream content is not lost.

Compact Flash is provided at the card-edge for local near line storage of logo content with on-board, on-line memory for logo playout. The system is delivered with a 2Gb standard for both Compact Flash and on-line memory.

Ordering Information

HD / SD Mixer / Keyer with Internal Logo Insertion

MDK-111A-M HD / SD SDI Mixer / Keyer w/ Internal Logo Insertion

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for MDK-111A-M

- HD / SD SDI SMPTE 292M, 1.485Gb/s, SMPTE 259M, 270Mb/s
- Supports 1080PsF/24 and 1080PsF/23.98
- 4 keyers: 1 external key / fill, 3 internal animation keyers
- BKGD A and BKGD B inputs with video and audio V-fade and mix with bypass relay for BKGD A to PGM out
- Configurable outputs with Program, Preview, Clean
- Flexible control, 8 GPI/O, M2100 serial
- 2Gb Compact Flash storage for multiple still or animated logos, and full screen images
- RossLing protocol integration
- Independent transition controls for each keyer
- 5-year transferable warranty
- Power: 18.4 watts

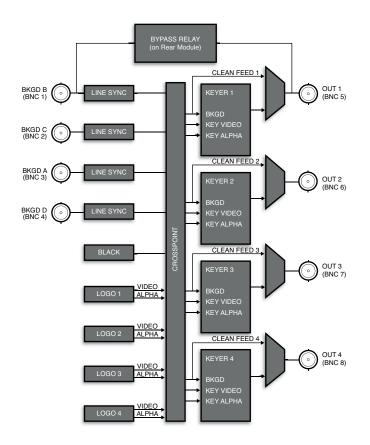
MDK-111A-K HD SD

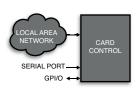


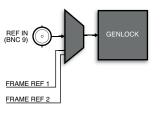


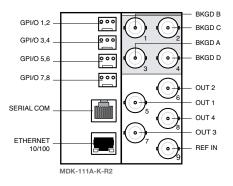
HD / SD Quad Logo Inserter

4 independent input / output streams with 1 dedicated logo inserter per stream.











Applications

- Animated Channel Branding Inserter
- Rating Inserter
- Downstream Bug Inserter
- Trouble Slide Inserter
- Branding / Sponsorship Keyer for Stadiums

The MDK-111A-K is an advanced high density 4 channel guad logo inserter providing cost-effective channel branding. Each of the 4 input streams can independently have an animated logo inserted. For example, the MDK-111A-K can take 4 different input streams, key a logo on each of the streams, outputting 4 streams each with their own unique branding. Each stream has complete independent transition control over the logo insertion. The internal key sources can be any size up to full-frame and can be positioned anywhere on screen. This makes the insertion of trouble slides, content rating bugs, and station ID logos simple and very cost-effective.

The MDK-111A-K offers a total of 8 configurable GPI/O with full DashBoard Control and Monitoring. The GPI/O interface is ideal for simple key in / key out transitions.

Compact Flash is provided at the card-edge for local near line storage of logo content with scalable on-board, on-line memory for logo playout. The system is delivered with 2Gb standard for both Compact Flash and on-line memory.

The MDK-111A-K supports TGA, PNG, BMP and JPG file formats with a dedicated Ethernet connection for transferring images direct to the MDK-111A-K.

Key Features

- HD / SD SDI SMPTE 259M, 270Mb/s, SMPTE 292M, 1.485Gb/s
- Supports 1080PsF/24 and 1080PsF/23.98
- 4 HD / SD SDI inputs / outputs
- Cost-effective branding
- 4 internal animation keyers, 1 per stream
- LTC input with time-code burn in
- Flexible control with 8 GPI/O and DashBoard
- On-board Ethernet for logo file transfers
- 2Gb CF storage for multiple still or animated logos, and full screen images
- RossLing protocol integration
- Independent transition controls for each keyer
- 5-year transferable warranty
- Power: 18.4 watts

Ordering Information

HD / SD Quad Logo Inserter

MDK-111A-K HD / SD SDI Quad Logo Inserter

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for MDK-111A-K

CDP-100

VANC Captioning CDP Analyzer

VAC-100

VANC Data Authoring Inserter

GPI-100

Remote GPI VANC Transmission

VDD-100

VANC Data Detector and Trigger

VRC-100

VANC Data Monitoring

Up / Down / Cross, ARC Conversion Synchronization & Delay Video Conversion Audio Conversion Audio Embedding / De-Embedding Advanced Audio Processing Fiber Switching Keying & Branding

Distribution & Monitoring

Data Solutions

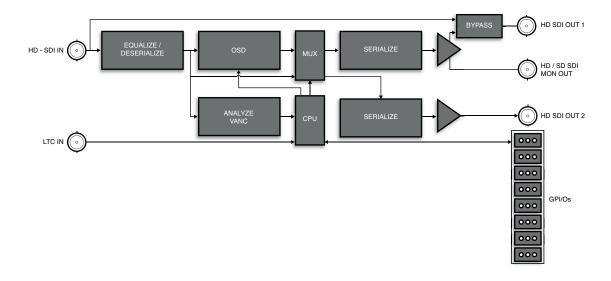
Transport Stream Monitoring & Conversion



CDP-100 HD SD AFD

VANC Captioning CDP Analyzer

Monitor caption distribution packets for compliance and prevent caption errors within VANC.



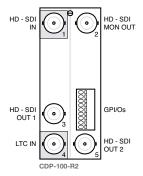
Ordering Information

VANC Captioning CDP Analyzer

CDP-100 CDP Analyzer

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for CDP-100





The CDP-100 monitors captioning CDPs in a SMPTE 292 signal for compliance to the SMPTE 334 standard. It reports and logs any variances from the standard.

The card can either run continuously and log errors or stop when it encounters an error. When stopping on an error it can stop immediately or it can stop so that the capture buffer is centered on the error. The product keeps track of when errors occur. Errors can be set to be handled as errors, as warning or to be ignored.

Monitoring can be done as an overlay on the video and / or through the DashBoard interface.

In DashBoard there are controls for running, stopping and clearing errors. There is a log of all errors and the time when each occurred. There is an upload facility to allow the captured CDPs to be moved to a PC for further analysis.

Key Features

- Use at media ingest to help reject poorly captioned content
- Catching subtle caption errors before they cause problems further down the broadcast chain
- Isolating issues with broadcast equipment and providing a detailed analysis which can be passed on to the manufacturer
- Used by manufacturers to provide compliance with the captioning standards
- 5-year transferable warranty

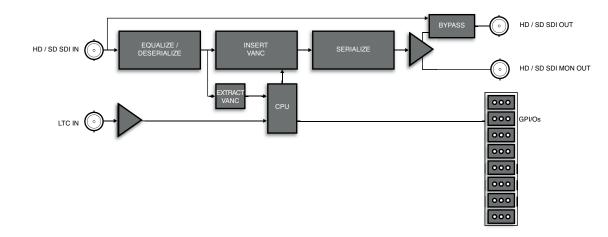
VAC-100 HD SD AFD







Insert up to 4 metadata or other services into VANC packets, selected and controlled by GPI/O.



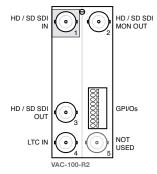
Ordering Information

VANC Data Authoring Inserter

VAC-100 **VANC** Authoring Inserter

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for VAC-100





The VAC-100 VANC Data Authoring Inserter provides a cost-effective means of authoring and inserting the most common VANC data into a SMPTE 259M or SMPTE 292M signal. The card, through its user interface, allows most types of VANC data to be created and stored within the card. Switches (GPI/Os) can be used to control the VANC data that the card inserts. The card automatically adapts to the video at its input to produce the correct data at its output.

The VAC-100 can author and insert the following VANC data types:

- Active Format Description (AFD) SMPTE 2016
- Audio Metadata SMPTE 2020 method A & B
- Timecode SMPTE 12M-2
- Text Tags to identify the source of the video
- V-ISAN
- Digital Program Insertion (DPI) Triggers SCTE-104 / **SMPTE 2010**
- Generic Data for hand-coded data
- Caption Test for testing CEA-708 / SMPTE 334

Key Features

Insert into SMPTE 259M and SMPTE 292M:

- Metadata
- Timecode
- Triggers
- User-defined data

The VAC-100 helps solve challenges such as:

- Incorrect audio playout (ex. missing center channel)
- "Postage stamp" images (ex. after two stages of up / down conversion)
- Triggering of downstream equipment
- Closed-caption testing
- 5-year transferable warranty

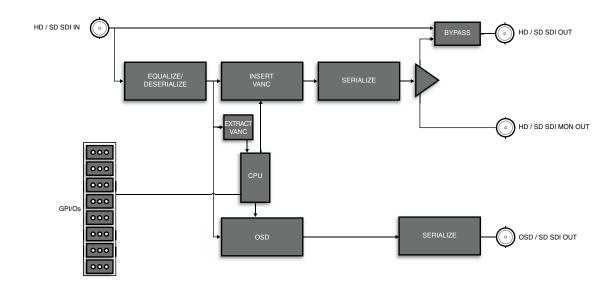
GPI-100 HD SD





Remote GPI VANC Transmission

Encodes or decodes up to 8 GPIs as VANC packets.



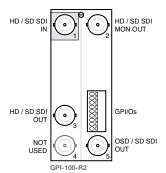
Ordering Information

Remote GPI VANC Transmission

GPI-100 Remote GPI VANC Transmission

Rear Module Suffix (ex: [model]-R2)

-R2 Encoding Rear Module for GPI-100 -R2D Decoding Rear Module for GPI-100





The GPI-100 enables GPI/O triggers to be carried in the Vertical Ancillary (VANC) data area of an SDI (SMPTE 259M), or HD SDI (SMPTE 292M) video signal, in accordance with SMPTE 291 and other related standards. The GPI-100, as an encoder, reads GPI/O inputs and inserts them into the VANC. As a decoder, it reads the VANC and applies the data to GPI/O outputs. This allows GPI/O enabled equipment to be triggered remotely through the video path.

The GPI-100 provides a simple interface allowing the carriage of GPI/O triggers as part of the video signal. For example:

- The card is set to act as an encoder or a decoder. This determines if the card will read and place the GPI/Os into the VANC (encode) or read the VANC and assert the GPI/Os (decode).
- GPI/O triggers are logged both to the screen and to a log file. The log file can be transferred from the card to the PC.
- Entries in the log file are time stamped. The GPI-100 can be set to use an NTP time server, timecode or its own internal clock as its time reference.
- One GPI-100 can insert trigger for many GPI-100s acting as receivers. There are 8 GPI/Os available and a receiver can act on all or some of them.

Key Features

Remote GPI Transmission:

- Carry 8 GPIs
- Card can be set as encoder or decoder
- 1 encoder can transmit to multiple decoders
- Decoders can selectively respond to some or all GPIs
- Protects equipment from being triggered by other originators
- Logging feature

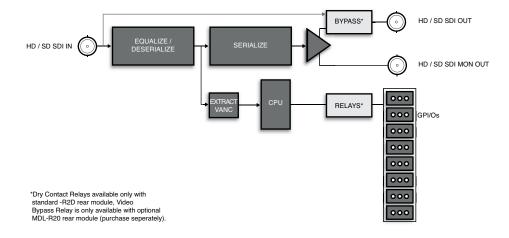
The GPI-100 provides remote control of:

- Station equipment
- Logo insertion equipment
- Switchers
- Replaces obsolete cue tone equipment
- 5-year transferable warranty

VDD-100 HD SD AFD

VANC Data Detector and Trigger

Detect the presence of up to 8 packets in the VANC and signal external devices with GPI/O.



Ordering Information

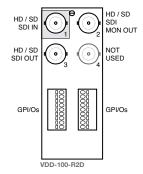
VANC Data Detector and Trigger

VDD-100 VANC Data Detector and Trigger

Rear Module Suffix (ex: [model]-R2)

-R2D Rear Module w/ Dry Contact Relays

for VDD-100





The VDD-100 VANC Data Detector provides a GPI/O trigger based on detecting a specific user-defined packet in the VANC. This makes the VDD-100 ideal for a wide variety of applications including:

- Detecting network branding triggers and controlling existing graphic overlay devices.
- Detecting AFD packets and controlling a keyer to replace pillar bars with graphic content.
- Detecting SCTE-104 triggers for digital program insertion.

The VDD-100 provides a simple interface allowing the detection of VANC packets in a SMPTE 292M/259M signal.

Key Features

- Detects up to 8 different VANC packets
- Triggers GPI/O outputs
- Matches on DID / SDID and 1 to 20 bytes of packet
- Select which bytes must match with a mask
- Match on packet length or on first 'n' bytes
- Remote control of network branding triggers
- Remote control of logo insertion equipment
- Remote control of aspect ratio control
- SCTE-104 decoding
- 5-year transferable warranty

VRC-100 HD SD AFD

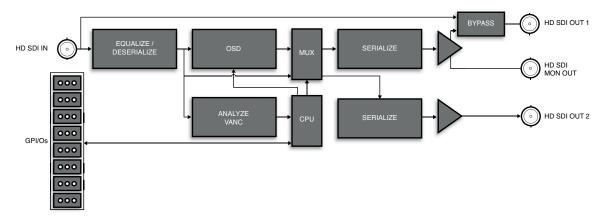






VANC Data Monitoring

Monitor and display most common VANC packets with on-screen and GPI/O alerts.



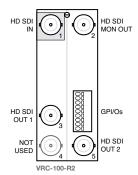
Ordering Information

VANC Data Monitoring

VRC-100 **VANC Data and Monitoring**

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for VRC-100





The VRC-100 VANC receiver card provides a simple and highly configurable way of monitoring the VANC data in a SMPTE 292M signal. Information about the VANC content is displayed over the video that contains it. The user has complete control over the data that is decoded and how it is displayed. The card is capable of 8 screen overlay layouts controllable by GPI (switches) or the overlays may be switched automatically on a timed basis. The card detects the presence of the data, whether it is correctly coded and can display the details of the data in a readable form. Alarms in the user interface are triggered if data is not correct or not present. Alarms may be displayed as part of the overlay or may be tied to GPI/Os.

The VRC-100 can monitor such VANC as captioning, CEA-708 including embedded CEA-608; Active Format Description (AFD), SMPTE 2016; Audio Metadata, SMPTE 2020 method A & B; Timecode SMPTE 12M-2: Text Tags, Video Source Identifiers: Redistribution Control (broadcast) Flag, SMPTE RP207; detection of generic data based on DID and SDID; a map showing the contents of the VANC space.

The concept of the VRC-100 is your data your way. Watch your video and overlay as much information about the VANC as you wish to see.

Kev Features

8 screen overlay layouts of VANC data contained within a SMPTE 292M signal:

- Closed-captions
- Audio metadata
- AFD
- Timecode
- Broadcast flag
- Triggers
- User-defined data

The VRC-100 helps solve challenges such as:

- Closed-caption compliance monitoring
- Monitoring VANC data at ingest
- Confidence checking data insertion
- Trigger and text tag verification
- 5-year transferable warranty

ASI-310

DVB-ASI to SMPTE 310M Converter

TSD-100

Transport Stream Detector

TSM-100

Transport Stream Monitor

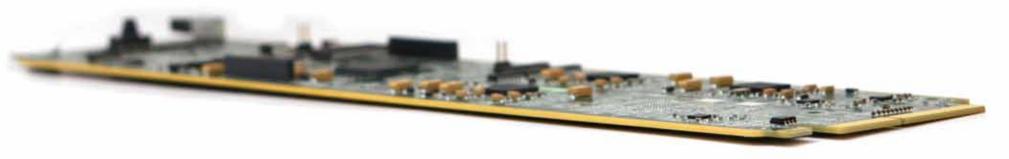
TSI-100

Transport Stream Indentifier

Up / Down / Cross, ARC Conversion Synchronization & Delay Video Conversion Audio Conversion Audio Embedding / De-Embedding Advanced Audio Processing Fiber Switching Keying & Branding Data Solutions

Distribution & Monitoring

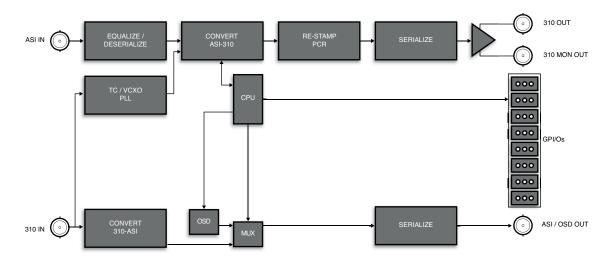
Transport Stream Monitoring & Conversion





DVB-ASI to SMPTE 310M Converter

Bi-directional converter between DVB-ASI and SMPTE 310M.



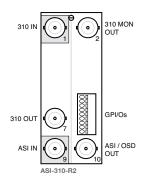
Ordering Information

DVB-ASI to SMPTE 310M Converter

ASI-310 ASI to 310 and 310 to ASI Converter

Rear Module Suffix (ex: [model]-R2)

-R2 Rear Module for ASI-310





Convert MPEG-2 transport streams between the DVB-ASI and SMPTE 310M formats.

The ASI-310 converter offers a number of unique features to ease integration into your environment.

It can simultaneously convert ASI-to-310 and 310-to-ASI.

The 310 output can be frequency-locked to a reference 310 input or a high-stability on-board temperature-compensated crystal oscillator can be used.

The bit rate is user-selectable (19.392658 or 38.785316Mb/s) as is PCR re-stamping of 310 output stream.

A wide range of ASI input rates can be converted to 310 by adding or deleting null packets as needed to maintain the exact output data rate.

GPI/O outputs can be used to signal error conditions such as loss of video and excessive ASI input rate.

Key Features

Simultaneous two-way conversion:

- Convert ASI to 310 for use by ATSC transmission equipment
- Convert 310 to ASI for use with ASI-based equipment such as analyzers

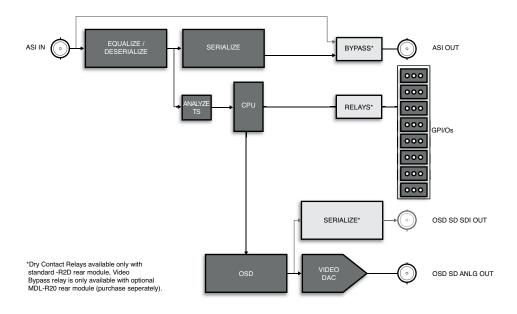
The ASI-310 facilitates:

- The interface from ASI infrastructure to ATSC transmission equipment
- The use of ASI test equipment to inspect 310 signals
- 5-year transferable warranty



Transport Stream Detector

Detect and monitor up to 8 PIDs assigned to SCTE-35 triggers and signal external devices with GPI/O.



Ordering Information

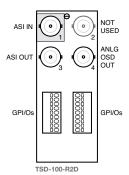
Transport Stream Detector

TSD-100 Transport Stream Detector

Rear Module Suffix (ex: [model]-R2)

-R2D Rear Module w/ Dry Contact Relays

for TSD-100





The TSD-100 analyzes an MPEG-2 transport stream to identify occurrences of selected components. For example, when SCTE-35 triggers are carried in operator specified PIDs, the TSD-100 can simply use the presence of these PIDs or use the splice commands contained within, to assert a GPI/O output to alert an operator or downstream equipment to the occurrence of the SCTE-35 trigger.

The TSD-100 provides a number of innovative tools to simplify your workflow. For example:

- In "SCTE-35 trigger" mode, GPI/O outputs are controlled by splice-insert commands.
- In "PID detected" mode, each GPI/O output is triggered by the arrival of a transport stream packet with the selected PID, and is then negated after a user-specified timeout.
- Each GPI/O output has an associated user-specified timeout. This lets you control the duration of the output pulse to meet your system requirements.
- Each GPI/O output can indicate either the presence or the absence of the specified PID.

Key Features

Detect selected components of an MPEG-2 **Transport Stream:**

- Digital Program Insertion Triggers (notification of splice points) (SCTE-35)
- User-defined data / triggers

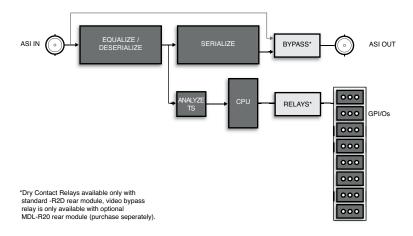
The TSD-100 facilitates:

- Confidence checking of digital insertion triggers prior to distribution
- Notification to monitoring systems
- Triggering of downstream equipment
- Maintains DPI trigger log that can be consulted through DashBoard and downloaded to a PC
- 5-year transferable warranty

TSM-100 ASI

Transport Stream Monitor

MPEG transport stream monitoring with GPI/O alarming.



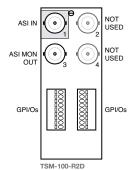
Ordering Information

Transport Stream Monitor

TSM-100 Transport Stream Monitor

Rear Module Suffix (ex: [model]-R2)

-R2D Rear Module w/ Dry Contact Relays for TSM-100





The TSM-100 analyzes an MPEG-2 transport stream for compliance with standards and recommended practices, including ATSC A/78, TR 101 290, and SCTE-142.

TSM-100 inspects the presence and timing of critical MPEG components and verifies the integrity of the overall stream. It classifies each of the components based on the A\78 categories:

- TNC Technically Non-Conformant
- QOS Quality of Service
- CM Component Missing
- POA Program Off Air
- TOA Transport Stream Off Air as well as OK

The status of various components is summarized in the overall quality level indicator, and an alarm can be generated to indicate a specified level. Simple alarm status and rich analysis information is also available.

Key Features

- Monitor MPEG-2 transport stream quality
- Generate alarms if error level exceeds a specified threshold

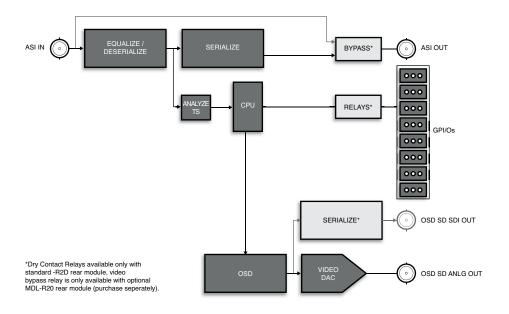
The TSM-100 facilitates:

- Unattended confidence monitoring of transport streams
- Monitoring of multiple streams within an openGear® frame
- Notification to other monitoring systems
- 5-year transferable warranty

TSI-100 ASI

Transport Stream Identifier

Monitor and signal a remote device when an incorrect transport stream or no transport stream is present.



Ordering Information

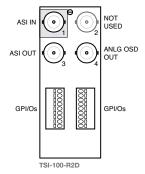
Transport Stream Identifier

TSI-100 Transport Stream Identifier

Rear Module Suffix (ex: [model]-R2)

-R2D Rear Module w/ Dry Contact Relays

for TSI-100





The TSI-100 monitors the ASI transport stream and provides a GPI/O output when the TSID is not correct. This signal may be used to control other devices or to signal the fault.

The TSI-100 is ideally suited for use in remote television broadcast translators to mute or power off the re-transmitter when the main broadcast goes off the air. It may also be used in a cable head-end for the same purpose.

Key Features

- Verify transport stream is correct by inspecting its TSID
- GPI/O output to signal a problem or control another device
- Ideal for muting translators when main transmitter is off air
- Connection for both normally open and normally closed operation

The TSI-100 provides remote control of:

- Transmitters in a translator
- Cable head-end channel input equipment
- Signals a remote device or alarm when an incorrect transport stream or no transport stream is present
- Simple setup, enter the TSID of the transport stream
- 2 GPI/Os provide both normally open and normally closed signaling
- Unattended operation, set it and forget it
- 5-year transferable warranty

OPA-8380A

General Purpose Adapter

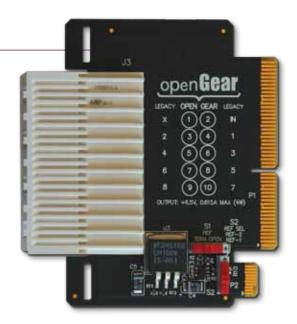
Leaving no customer behind!

The OPA-8380A openGear® adapter is designed to allow existing customers, with RossGear 8000 Series products, to easily migrate existing solutions to the OG3-FR frame.

The OPA-8380A can also be used in situations where cost-effective SD only solutions are required.

The adapter supports the products listed and may be ordered separately or with an 8000 Series card by using the -OG extension.

Note: The cards using OPA-8380A is not controllable under the DashBoard control system.



OPA-8381

Analog Audio Adapter

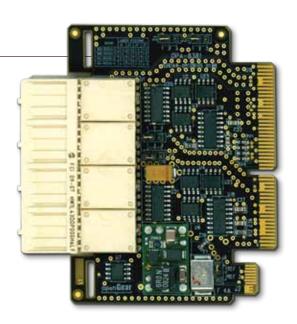
Leaving no customer behind!

The OPA-8381 openGear® adapter is designed to allow existing customers, with RossGear Analog Audio 8000 Series products, to easily migrate existing solutions to the OG3-FR frame.

The OPA-8381 can also be used in situations where cost effective SD only solutions are required.

The adapter supports the products listed and may be ordered separately or with an 8000 Series card by using the -OG extension.

Note: The cards using OPA-8381 is not controllable under the DashBoard control system.



8000 SERIES PRODUCTS SUPPORTED BY THE openGear® **PLATFORM**

Distribution and Monitoring

Serial Equalizing Amplifier SEA-8003A Dual Serial Equalizing Amplifier DSA-8004A

SDI Component Monitoring and Reclocking Amplifier CMA-8011A

VEA-8007A Analog Video Equalizing Amplifier UDA-8005A Analog Utility Distribution Amplifier

ADA-8501 AES / EBU Reclocking Distribution Amplifier AES / EBU Fanout Distribution Amplifier ADA-8503

ADA-8504 Dual AES / EBU Reclocking Distribution Amplifier



ADL-8520A AES / EBU Auto-Tracking Audio Delay Unit ADL-8520A-A Adds 2 Analog Input Channels to ADL-8520A ADL-8520A-B Adds Analog Output Signals to ADL-8520A-A

Video Conversion

DAC-8016A Series SDI to Analog Composite Converter ADC-8032B Series Analog Composite to SDI Converter ADC-8033A Series Analog Component to SDI Video Converter



